Appln. No. 09/840,193
Amendment dated December 29, 2004
Reply to Office Action of October 4, 2004

REMARKS/ARGUMENTS

Reconsideration of the present application, as amended, is respectfully requested.

The October 4, 2004 Office Action and the Examiner's comments have been carefully considered. In response, claims are cancelled and amended, and remarks are set forth below in a sincere effort to place the present application in form for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

CLAIM OBJECTIONS

In the Office Action claims 1 and 30 are objected to because of an informality. In response, claim 30 is cancelled and claim 1 is amended in a sincere effort to overcome the Examiner's objection. In view of the cancellation of claim 30 and the amendment of claim 1, reconsideration and withdrawal of the objection to claims 1 and 30 are respectfully requested.

REJECTION UNDER 35 USC 112, SECOND PARAGRAPH

In the Office Action claims 1-10 and 30 are rejected under the second paragraph of 35 USC 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In

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response, the claims are amended in a sincere effort to address
each of the points raised by the Examiner and to overcome the
indefiniteness rejection. In view of the amendment of the
claims, reconsideration and withdrawal of the rejection of claims
1-10 and 30 under the second paragraph of 35 USC 112 are
respectfully requested.

PRIOR ART REJECTIONS

In the Office Action claims 1, 2, 8 and 30 are rejected
under 35 USC 102(b) as being anticipated by USP 5,732,149 (Kido
et al.). Claims 6 and 7 are rejected under 35 USC 103 as being
unpatentable over Kido et al., and further in view of USP
6,493,458 (Yasui et al.). Claims 3-5 and 10 are rejected under
35 USC 103 as being unpatentable over Kido et al. and further in
view of USP 6,335,980 (Armato, III et al.). Claim 9 is rejected
under 35 USC 103 as being unpatentable over Kido et al. and
further in view of USP 6,594,380 (Shinbata).

In response, claim 1 is amended to more clearly define the
present claimed invention over the cited references.

The present claimed invention as defined by independent
claim 1 is directed to a radiation image processing apparatus
including an object region extracting section and a contour
recognizing section. The object region extracting section

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detects an amount of radiation energy transmitted through an
object representing a body part, forms radiation data including
radiation image data of the object and extracts an object region
corresponding to the radiation image data of the object from the
radiation data. The contour recognizing section recognizes a
contour of a body part of the object based on the object region
extracted by the object region extracting section. The contour
recognizing section has data of classifying judgment criteria for
each of plural different kinds of predetermined contours, judges
the kind of recognized contour to belong with one of plural
different kinds of contours on the basis of the classifying
judgment criteria and provides a feature amount regarding the
kind of recognized contour in accordance with the judgment
results.

   As recited in amended claim 1, a radiation image processing
apparatus includes an object region extracting section and a
contour recognizing section. The object region extracting
section extracts an object region corresponding to the radiation
image data of the object from the radiation data (see Figs. 3(a)
to 3(d) of the present application). The contour recognizing
section has data of classifying judgment criteria for each of
plural different kinds of predetermined contours (see Figs. 4(a),
4(b), 5, 6(a) to 6(d), and 7(a) to 7(d) and page 63, line 4 of

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the present application). Then, the contour recognizing section

judges the kind of recognized contour to which one of the plural

different kinds of contours belongs on the basis of the

classifying judgment criteria and provides a feature amount

regarding the kind of recognized contour in accordance with the

judgment result (see page 66, line 3 of the present application).

As a result, the radiation image processing apparatus of the

present invention specifies the kind of body part of the object

on the basis of the feature amount.

In the Office Action the Examiner asserts, based on the

disclosure at column 13, lines 6-23 that Kido et al. disclose a

contour recognizing means which extracts a contour based on the

extracted object region.

However, in the above-identified portion of Kido et al.,

Kido et al. merely teach producing a characteristic value of a

dispersion, the standard deviation value and a difference between

the maximum and minimum value with regard to 4x4 pixel data

(optical density level) in order to determine the boundary line

(see column 13, line 22 of Kido et al.).

Therefore, the characteristic value of Kido et al. has

nothing to do with a feature amount of the present invention

regarding the kind of contour of an object.

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As a matter of fact, as can be seen from the Abstract of

Kido et al., Kido et al. merely teach an irradiation field region

extracting apparatus. Kido et al. do not disclose, teach or

suggest classifying judgment criteria for each of plural

different kinds of predetermined contours, nor do Kido et al.

teach structure which judges the kind of recognized contour to

which one of plural different kinds of contours belongs on the

basis of the classifying judgment criteria.

That is, the present claimed invention as defined by amended

claim 1 is patentable over Kido et al. because the reference does

not disclose, teach or suggest:

> an object region extracting section that detects an amount
> of radiation energy transmitted through an object
> representing a body part, forms radiation data including
> radiation image data of the object and extracts an object
> region corresponding to the radiation image data of the
> object from the radiation data; and/or

> a contour recognizing section that recognizes a contour of
> the body part of the object based on the object region
> extracted by the object region extracting section, wherein
> the contour recognizing section has data of classifying
> judgment criteria for each of plural different kinds of
> predetermined contours, judges the kind of the recognized
> contour to which one of the plural different kinds of
> contours belongs on the basis of the classifying judgment
> criteria, and provides a feature amount regarding the kind
> of the recognized contour in accordance with the judgment
> result (see claim 1, lines 3-19).

None of the other references of record close the gap between the present claimed invention as defined by amended claim 1 and Kido et al.

Claims 2-9 are either directly or indirectly dependent on claim 1 and are patentable over the cited references in view of their dependence on claim 1 and because the references do not disclose, teach or suggest each of the limitations set forth in claims 2-9.

In view of the foregoing, claims 1-9 are in form for immediate allowance, which action is earnestly solicited.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner disagrees with any of the foregoing, the Examiner is respectfully requested to point out where there is support for a contrary view.

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If the Examiner has any comments, questions, objections or
recommendations, the Examiner is invited to telephone the
undersigned at the telephone number given below for prompt
action.

Respectfully submitted,

Robert P. Michal
Reg. No. 35,614

Frishauf, Holtz, Goodman & Chick, P.C.
767 Third Avenue - 25th Floor
New York, New York 10017-2032
Tel. (212) 319-4900
Fax (212) 319-5101
RPM/ms

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